The Leica Darkfield Quebec

Colony Counter Model

3325/3326/3327/3328

Leica
MICROSYSTEMS

LEICA DARKFIELD QUEBEC® Colony Counter Model 3325/3326/3327/3328

Instruction Manual

1.0 INTRODUCTION

The LEICA DARKFIELD QUEBEC® Colony Counter provides efficient, accurate and convenient colony counting. Even, glare-free illumination over the entire culture plate assures clear, quick results. By touching the colony with the counting probe (Models 3327/3328), colonies are recorded on the digital display; they appear bright and are readily distinguished from other structures. Wolffheugel and Stewart counting plates are available.

2.0 UNPACKING & ASSEMBLY

Carefully remove the LEICA DARKFIELD QUEBEC® Colony Counter and accessories from the packing box and inspect them to assure damage did not occur in shipping.

Place the instrument on a hard, flat surface.

A leg located on the bottom can be set at either a tilt angle or locked flat to the instrument base.

Similarly, the 1.5X magnification lens may be raised or lowered for user preference. A 1.5X auxiliary lens (Catalog No. 3331) is available as an accessory and is designed to be placed over the existing lens to increase the total magnification to 3X.

The LEICA DARKFIELD QUEBEC® Colony Counter (Model 3327 & 3328) includes a five-digit L.C.D. counter with a reset button, a ground contact and counting probe (Figure 1). An optional push button counter also is available.

The counting probe (Models 3327/3328 only) is shipped with the needle tip reversed for protection from damage. To assemble the counting probe for use, loosen the knurled nut, remove the needle, place the blunt end in the chuck and retighten.

The ground contact has a magnetic base and is attached to the instrument case so the arm extends over the culture plate and touches the surface of the agar.

The push button counter plugs into the two-hole receptacle at the rear of the colony counter.

3.0 TESTING THE INSTRUMENT

Before using the LEICA DARKFIELD QUEBEC® Colony Counter it should be tested. Plug the electrical cord into a grounded 120V/60 cycle AC outlet (Model 3325/3327) or 230V/50 cycle AC outlet (Model 3326/3328).

Turn the instrument on using the switch located on the rear panel. Touch the tip of the counting probe to the ground arm probe. A count should register on the L.C.D. display, if the colony counter is operational.

To return the L.C.D. display counter to "0" depress the reset button.

4.0 CARE OF THE COUNTING PROBE

Care should be taken to keep the tip of the counting probe sharp. If the needle is blunt, small colonies will be difficult to count and accurately register.

The probe tips touching media and/or colonies should be cleaned as dictated by good laboratory procedures. Solutions of 70% isopropyl alcohol, iodine/alcohol, Lysol® Brand or formaldehyde may be used to clean the tip without harm.

Explanation of Warning Symbols

CAUTION: *Replace with same type and rating fuse*

CAUTION: *Risk of electric shock*

CAUTION: *(Refer to accompanying documents)*

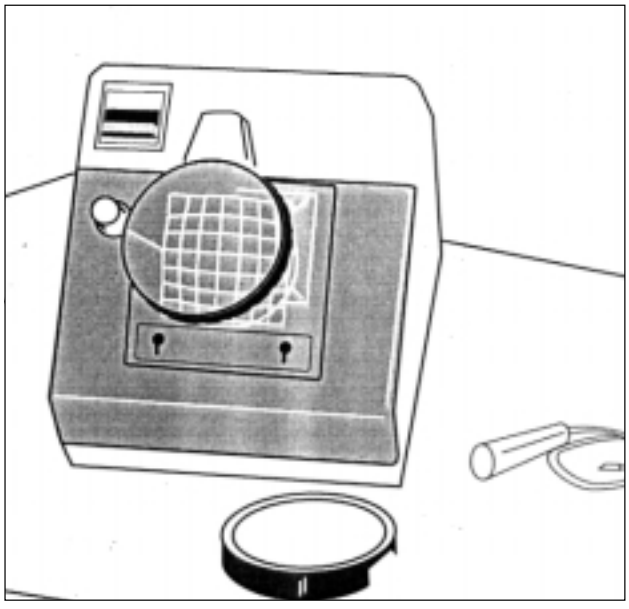

Figure 1

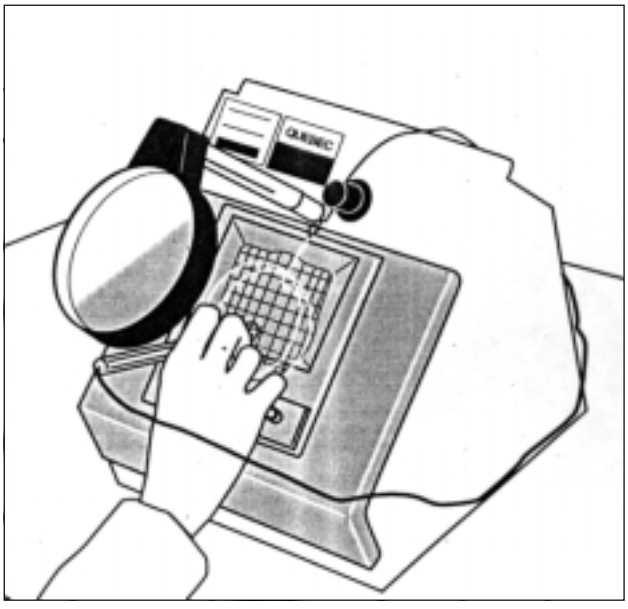

Figure 2

5.0 OPERATING THE COLONY COUNTER

To count directly on the surface of the nutrient medium, place the uncovered culture plate on the culture plate holder. Loosen the two thumbscrews on the holder to center the culture plate on the counting plate.

Plug the ground contact and the counting probe into either electric receptacle on the back of the instrument. Position the ground contact with magnetic base near the culture plate so that the L-shaped tip makes contact with the surface of the agar.

Counts are automatically registered by simply touching each colony with the needle point of the counting probe (Figure 2).

To prevent the possibility of spurious registration resulting from the "entry" and "exit" of the probe tip into the medium, a pulsed delay circuit will admit only one count over a short time period. This feature does not interfere with the maximum counting speed of a skilled operator.

6.0 BULB REPLACEMENT

The LEICA DARKFIELD QUEBEC® Colony Counter illumination source is a standard 40 watt soft white-type incandescent bulb. (50W for 230V operation)

Danger: *The glass bulb may be hot. Do not attempt to change the bulb before it is completely cooled or without wearing adequate skin protection.*

Disconnect the instrument from its power source. Remove the screws on the face of the instrument. Swing the magnification lens aside and open the black front section attached to the lower hinge. Unscrew the burned out bulb and replace it. Reconnect the colony counter to its power source (Figure 3).

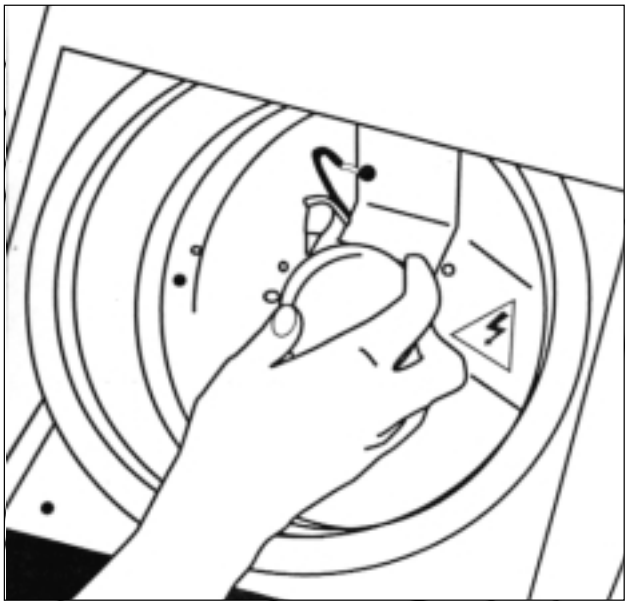

Figure 3

7.0 CLEANING THE COUNTING PLATE

Remove the screw on the left side of the instrument face. Swing the magnification lens aside and open the black front section attached to the lower hinge. The counting plate is held in place with four screws attached to the back of the front panel. Loosen the screws and slip the plate out of the retainer.

Clean the counting plate with a solution of mild detergent and water or xylene. DO NOT USE AN ABRASIVE CLEANSER. It will damage the white grid on the counting plate.

Dry the counting plate with a lint-free cloth. Place the counting plate back into the retainer until it is firmly seated. Avoid leaving fingerprints on the surfaces; they may cause inaccurate readings. Ensure plate is installed with rulings facing bulb to avoid damage.

Tighten the four screws and return the front section to the operating position. Replace the screw on the front of the instrument.

The LEICA DARKFIELD QUEBEC® Colony Counter is designed to insure reliability, long life and minimal maintenance. Contact your local Leica representative for additional operating or service information.

7.0 FUSES

The LEICA DARKFIELD QUEBEC® Colony Counter has two fuses located in a fuse drawer next to the power switch on the rear panel. The instrument must be unplugged to allow access to the fuse drawer.

CAUTION*: Use only the fuse specified on the data plate for replacement.*

8.0 SPECIFICATIONS

The LEICA DARKFIELD QUEBEC® Colony Counter bears the following marks: UL, cUL

- Models 3325 and 3327 are rated 120VAC, 40 watts
- Models 3326 and 3328 are rated 230VAC, 50 watts

Operating Conditions

- Indoor use only
- RH 80% up to 31°C decreasing linearly to 50% RH at 40°C
- Pollution degree 2
- Altitude up to 2,000m
- Temperature 5°C to 40°C
- Main supply voltage ±10%
- Installation CAT II

ISO 9001
1994

Certificate
#0003438

Due to a policy of continuous development, we reserve the right to change specifications without notice.

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